

WHAT IS CLAIMED IS:

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1. Apparatus which enables a transport protocol executing on a first computer system to be utilized by applications executing on a second computer system which is directly interconnected and closely coupled to the first computer system, comprising:

an interconnection coupling an input/output (I/O) subsystem of the first computer system to an I/O subsystem of the second computer system and over which data can be transmitted between the first and second computer systems independent of a network interface card;

an interconnection messaging system executing on the first and second computer systems that provides general purpose transport interfaces between said first and second computer systems; and

a distributed transport communications manager executing on the first and second computer systems, said distributed communications manager controlling use of said interconnection messaging system to establish a dialog through which the transport protocol of the first computer system may be used by an application executing on the second computer system in a manner which is transparent to said application, wherein said application utilizes transport protocols executing on a plurality of networked computer systems including said first computer system, each of said plurality of networked computer systems being directly interconnected and closely coupled to said second computer system and using said interconnection messaging system to establish dialogs through which the transport protocols of the networked computer systems may be used by said application in a manner which is transparent to said application.

2. The apparatus as in claim 1, wherein the interconnection between the I/O subsystem of the first computer system and the I/O subsystem of the second computer system comprises a physical connection between the I/O subsystems over which data can be transmitted.

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3. The apparatus as in claim 1, wherein the interconnection messaging system includes a messaging subsystem ("MSS") which provides said general purpose transport interfaces, said general purpose transport interfaces being independent of communication protocols of the interconnection, and which provides further interfaces on either end of the interconnection which are dependent on the communication protocols of the interconnection, whereby only the further interfaces must be changed when the interconnection is changed.

4. Apparatus as in claim 3, wherein the MSS includes an MSS component on each of said first and second computer systems, each MSS component having at least one local MSS user connected thereto through said independent transport interface, an MSS component on the first computer system creating a dialog to each complementary remote MSS user of the second computer system.

5. Apparatus as in claim 4, wherein each MSS component includes means for building dialog tables for local MSS users informing the local MSS users about any complementary remote MSS users accessible via the interconnection and for updating said dialog tables as complementary remote MSS users are added or removed.

6. Apparatus as in claim 4, wherein each MSS component includes means for performing dialog management functions that allow the local MSS users to establish, receive status about, and destroy dialogs with the complementary remote MSS users over the interconnection.

7. Apparatus as in claim 4, wherein each MSS component includes means for performing control message functions that allow the local MSS users and the complementary remote MSS users to pass control messages to each other in a manner which is independent of the communication protocols of the interconnection.

8. Apparatus as in claim 4, wherein each MSS component includes means for transferring data between local and complementary remote MSS users over dialogs established between said local and remote MSS users.

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9. Apparatus as in claim 4, wherein one of said local and one of said complementary remote MSS users comprise complementary components of said distributed transport communications manager.

10. The apparatus of claim 9, wherein said complementary components of said distributed transport communications manager use the MSS and the transport protocol of the first computer system to provide dialog establishment, data transfer, and dialog termination between a network application executing on said second computer system and another network application executing in a computer network including said first and second computer systems.

11. Apparatus as in claim 10, wherein said complementary components respectively interface with said network application executing on said second computer system and the transport protocol executing on the first computer system, and said complementary components are implemented on the first and second computer systems as complementary MSS users which are connected to the MSS through the independent transport interfaces of the MSS.

12. Apparatus as in claim 1, wherein said transport protocol executing on said first computer system is utilized by a plurality of networked computer systems including said second computer system, each of said plurality of computer systems being directly interconnected and closely coupled to said first computer system and using said interconnection messaging system to establish dialogs through which the transport protocol of the first computer system may be used by application programs executing on the networked computer systems in a manner which is transparent to said application programs.

13. Apparatus as in claim 12, further including a filtering device between a TCP/IP stack of said first computer system and the application programs which knows if a particular application program is an application program of said first computer system or an application program in a particular processing environment, where said filtering device establishes a connection using an independent IP address for each

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environment whereby multiple applications may be used simultaneously in multiple environments.

14. Apparatus as in claim 1, wherein said distributed transport communications manager creates a plurality of dialogs over the interconnection for a plurality of pairs of network applications executed by said first and second computer systems whereby the network applications in each pair may communicate over the interconnection in a manner which is transparent to the first and second network applications in the pair, said distributed transport communications manager further specifying a transport dialog which is to be used for the data transfer between the network applications in the pair.

15. A method for enabling a transport protocol executing on a first computer system to be utilized by applications executing on a second computer system which is directly interconnected and closely coupled to the first computer system via an interconnection between an input/output (I/O) subsystem of the first computer system and an I/O subsystem of the second computer system to transmit data therebetween independent of a network interface using an interconnection messaging system on the first and second computer systems having a messaging subsystem (MSS) that provides general purpose transport interfaces between the first and second computer systems, use of said interconnection messaging system being controlled by a distributed transport communications manager (DTCM) having complementary DTCM components on said first and second computer systems, comprising the steps of:

said complementary DTCM components opening a MSS dialog over the interconnection;

the transport protocol of the first computer system and a transport entity in a computer network including said second computer system opening a transport dialog between said first computer system and another computer system in the computer network; and

managing said MSS dialog and said transport dialog so that the transport protocol of the first computer system may be used by a network application executing on the second computer system in a manner which is transparent to said network application, wherein said network application utilizes transport protocols executing on a plurality of networked computer systems including said first computer system, each of said plurality of networked computer

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systems being directly interconnected and closely coupled to said second computer system, and said interconnection messaging system establishing dialogs through which the transport protocols of the networked computer systems may be used by said network application in a manner which is transparent to said network application.

16. The method of claim 15, wherein said dialog managing step comprises the step of filtering network addresses at connection establishment time to determine to which network application environment a network application requesting a connection desires to be connected.

17. The method of claim 15, comprising the additional steps of creating a plurality of MSS dialogs over the interconnection for a plurality of pairs of network applications whereby the network applications in each pair may communicate in a manner which is transparent to the network applications in the pair, and specifying the transport dialog which is to be used for the data transfer between the network applications in the pair.

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